REMARKS

Reconsideration of this application is requested. Claims 1-8, 11-25 and 62-66 are in the case.

I. CLAIM OBJECTIONS

Claim 1 has been objected to in view of the phrase "such as to." In response, the word "such" has been replaced by "so" in accordance with the Examiner's suggestion. Withdrawal of this objection is now respectfully requested.

II. DOUBLE PATENTING

Claims 1-8, 11-25 and 62-66 stand rejected on obviousness-type double patenting grounds as allegedly unpatentable over Claims 1-8 of U.S. Patent No. 5,017,834 in view of U.S. Patent No. 5,017,627 to Bonfield et al and U.S. Patent No. 4,662,887 to Turner. This rejection is respectfully traversed.

The cited references do not give rise to obviousness-type double patenting over Claims 1-8 of U.S. Patent No. 6,017,834. Claim 1 of the present application specifies that the fibers and melt phase are of the same polymer. This is contrary to Turner which discloses the use of carbon fibers which do not melt. Moreover, Claim 1 specifies that the material includes fibers, whereas Bonfield completely melts the polyolefin material which removes all fibrous structure (see column 4,

lines 20-25) before blending. At column 2, lines 34-52, Bonfield further describes milling the polymer at a temperature above its softening point, i.e., 200°C to 260°C. HMPE fibers melt at 140°C, so that such a temperature in the Bonfield approach would ensure complete melting and thus loss of fibrous structure.

Claim 1 of the present application further specifies that the fibers are of maximum dimension 1mm. U.S. Patent No. 6,017,834 does not suggest such a selection, but rather refers to the possibility of using chopped fibers which are "assembled." It is not practical to make an assembly of fibers of maximum dimension 1mm.

In light of the above, it is clear that the presently claimed invention is not rendered obvious by Claims 1-8 of U.S. Patent No. 6,017,834 either when taken alone or in combination with Bonfield and/or Turner. Applying Bonfield to Ward leads one of ordinary skill to the notion that chopped fibers should be completely melted, while Turner suggests that the fiber should be carbon fiber. Thus, one of ordinary skill would **not** have been motivated to arrive at the presently claimed invention based on claims 1-8 of U.S. Patent No. 6,017,834 taken in view of Bonfield and Turner. Reconsideration and withdrawal of the outstanding double patenting rejection are accordingly respectfully requested.

III. THE OBVIOUSNESS REJECTION

Claims 1-8, 11-25 and 62-66 stand rejected under rejected under 35 U.S.C. 103(a) as allegedly unpatentable over U.S. Patent No. 6,017,834 when taken in view of Bonfield and Turner. This rejection is respectfully traversed.

Example 6 of Ward refers to chopped SNIA fibers, but such materials are not taught at lengths as short as 1mm (note, particularly, that the starting material chopped fiber of the present case is supplied at 3.2-3.8 mm (Table 1, page 13). It would not have been obvious to one of ordinary skill that the presence of the very short length of fiber in the structure of the final material would give rise to the property of being capable of being extruded to give material of exceptionally high modulus while including high levels of filler material.

Regarding Turner et al, it is clear that the amendment to Claim 1 overcomes the rejection based upon this disclosure. Turner et al (Example 2) discloses the use of carbon fibers of less than 1 mm length injection molded with PEEK polymer. Selective melting of polymeric fiber of less than 1 mm maximum dimension is not disclosed or suggested. Furthermore, the presently amended claim recites that the fiber and recrystallised melt are derived from a common molecularly oriented precursor polymeric fibers by selective melting. Such is not at all suggested by or obvious from Turner.

Neither Ward nor Bonfield suggests that the polymer should include fibers of maximum dimension 1 mm, such as it can be extruded by hydrostatic

extrusion as can the present material. Ward only disclose that the diameter of the fiber may be in the range of 0.005 to 0.05mm, whilst the length is exemplified as at least 3mm (see sheet dimension).

Even if one of ordinary skill had contemplated combining the cited disclosures, the resulting composite would not have had the same properties as the now claimed material. The present materials including fiber of defined maximum dimension, as provided by e.g. powderizing, are capable of hydrostatic extrusion while containing significant levels of filler.

Withdrawal of the obviousness rejection is believed to be in order. Such action is respectfully requested.

Allowance of the application is awaited.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

1. (Three times amended) A composite material comprising a particulate inorganic filler material and a fibrous polymeric material wherein the fibrous polymeric material comprises molecularly oriented polymeric fibers of maximum dimension 1 mm and a recrystallised melt phase, the fibers and melt phase being of the same polymer and being derived from common molecularly oriented precursor polymeric fibers by melting a proportion of the polymer of the precursor fibers, the recrystallised melt phase consisting of from 5% to 50% by weight of the polymeric material and having a melting point less than that of the molecularly oriented fiber [such] so as to join areas of adjacent fibers to form a network or continuous three dimensional matrix which binds the fibers and filler together.